Microbiology Portfolio extended

Biotest Product List 2011

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

Countless products.
One source.

The acquisition of Biotest's Microbiology division optimally complements EMD Millipore's product portfolio, giving you the advantage of obtaining all your requirements from one source.

With our combined expertise and enhanced portfolio, we can now serve you even better, offering state-of-the-art microbiology testing methods as well as comprehensive regulatory knowledge and services.

In preparation of providing you with an even broader portfolio catalog numbers of the Biotest Mircobiology product portfolio have been revised. For your convenience, you will find a cross-reference directory at the end of the product list.

The portfolio includes microbial air samplers, airborne particle counters, molecular microbiology and pyrogen test systems.

The most important new products in 2011 are:

- RCS High Flow Touch – proven RCS High Flow technology with an easy touch
- APC SmartTouch – world's first portable particle counter with a dual flow rate
- MMB Mycoplasma PCR Kit – easy and reliable PCR detection of Mycoplasmas from cell culture
- PyroDetect System – the human(e) alternative in pyrogen testing

With the Product List 2011 we aim to demonstrate our commitment to your needs and our dedication to providing convenient, easy-to-use and time saving solutions.

For more information on our products and services please contact your local sales representative, e-mail to **hycon@merckgroup.com** or visit **www.emdmillipore.com/biomonitoring**

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RCS Microbial Air Samplers
RCS High Flow Touch

Reliable
Proven RCS High Flow Technology

Convenient
Flexible operation with an easy touch

Validated
Complete system with standardized media

Microbial safety at your fingertips

The RCS High Flow Technology is proven for fast and easy microbial monitoring of ambient air and compressed gasses, especially in controlled areas. Together with standardized, ready-to-use and certified agar media, RCS High Flow Microbial Air Samplers are fully validated systems according to ISO 14698-1. The RCS High Flow Touch Microbial Air Sampler provides state-of-the-art technology including a high-resolution color touchscreen, intuitive software, an innovative battery concept, and a modern ergonomic design. The RCS High Flow Touch Microbial Air Sampler ensures most secure monitoring of ambient air and compressed gasses with an easy touch.

The new RCS High Flow Touch is the fourth model of the RCS High Flow Microbial Air Sampler series.

RCS High Flow Touch in a glance

- Short sampling time with a flow rate of 100 L/min
- Seven preset sampling volumes and three user-defined volumes from 1-2,000 L
- User-defined settings including time-delayed sampling start, interval sampling, QA-Management and optional barcode-driven data management
- Autoclave-able sampling head for easy disinfection
- Automated shut-down function
- Used with standardized, ready-to-use and certified agar media
- Portable, battery-driven and low weight

RCS High Flow Touch	Ord. No.
RCS High Flow Touch Microbial Air Sampler Including power supply, serial RS232 cable, USB adapter, RCS Management Software, rotor, protection cap, carrying case, calibration certificate, quick start guide and user manual	**1.44194.0001**

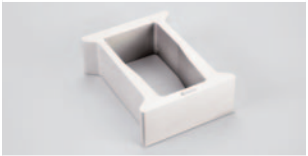
RCS High Flow Touch

RCS High Flow Touch Accessories		Ord. No.
Docking Station For recharging the integrated Lithium-ion battery		1.44256.0001
RCS Compressed Gas Adapter Touch Autoclave-able adapter for microbial monitoring of compressed gasses; designed for a pressure of 1 bar		1.44257.0001
Nozzle Set for RCS Compressed Gas Adapter Set of five nozzles to extend the air inlet pressure from 1 bar to 0.1-7.0 bar		1.44235.0001
Sterile Sleeves 10 pieces; for covering non-autoclave-able housing parts		1.44199.0010
Tripod For use at heights up to three meters		1.44209.0001
Table-top Tripod For horizontal operation		1.44210.0001
RCS High Flow Touch Validation Handbook **German version** **English version** Comprehensive compendium of validation data for RCS Microbial Air Samplers (RCS High Flow, RCS Isolator, RCS Plus) and Agar Strips; contains RCS Qualification Handbook for RCS High Flow Touch		 1.44176.0001 1.44189.0001
RCS High Flow Touch Qualification Handbook **German version** **English version** Plan for instrument qualification of the RCS High Flow Touch in controlled areas, contains IQ, OQ & PQ		 1.44178.0001 1.44192.0001
HYCON-ID Set Contains HYCON-ID Bluetooth Barcode Reader, bluetooth module and HYCON-ID Software; complete solution for wireless identification and documentation of microbial air sampling data		1.44224.0001
HYCON-ID USB Barcode Reader Barcode scanner with USB connection		1.44237.0001
HYCON-ID Barcode Printer Set Contains printer, software and labels to create user-specific barcodes		1.44234.0001

RCS High Flow Touch Accessories		Ord. No.
HYCON-ID Bluetooth Barcode Reader Contains bluetooth scanner and battery; for the extension of the HYCON-ID system to work with additional RCS High Flow instruments		1.44230.0001
HYCON-ID Battery Charger Charger for bluetooth barcode scanners		1.44231.0001
CalibSo Calibration Software for automated, computer-aided calibration and data storage		1.44206.0001
Anemometer Portable device for measuring the air flow rate during calibration of RCS Microbial Air Samplers		1.44205.0001
Adhesive Tapes 60 pieces, adhesive ring foils to seal the air inlet holes of the rotor during calibration		1.44208.0001
Rotor Spare part, autoclave-able Each combination of sampler and rotor must be calibrated separately		1.44196.0001
Protection Cap Spare part (stainless steel), autoclave-able For protection of the rotor during air sampling		1.44225.0001
Air Outlet Ring Spare part, autoclave-able		1.44198.0001
Carrying Case Spare part, aluminum carrying case with sections for the RCS High Flow Touch Microbial Air Sampler, two rotors, power supply, serial cable, USB adapter, documentation and Agar Strips		1.44150.0001
Power Supply Spare part, for recharging the integrated battery, including country-specific power cord		1.44145.0001
Serial Cable Spare part, for connecting with a PC via the serial RS232 interface		1.44207.0001
USB Adapter Spare part, for connecting with a PC via the USB interface		1.44152.0001
Spare Part Set Bag containing spare protection caps (electrical sockets for the docking station and power supply, the serial interface and the tripod) and housing feet		1.44200.0001

RCS High Flow

The RCS High Flow Microbial Air Sampler has been discontinued and replaced by the new RCS High Flow Touch. Please refer to the previous chapter for details. Accessories for the RCS High Flow are still available, and we will continue to provide calibration and repair service through authorized service centers.

RCS High Flow Accessories		Ord. No.
Power Supply **230 / 240 V (EU)** **120 V (US)** For continuous operation		 1.44201.0001 1.44202.0001
Universal Rapid Battery Charger **230 / 240 V (EU)** **120 V (US)** For charging of 9.6 V and 7.2 V Ni-Cd batteries		 1.44241.0001 1.44251.0001
Battery Discharger For discharging of the residual capacity of 9.6 V and 7.2 V batteries; prevents battery memory effects		1.44221.0001
RCS Compressed Gas Adapter Autoclave-able adapter for microbial monitoring of compressed gasses; designed for a pressure of 1 bar		1.44233.0001
Nozzle Set for RCS Compressed Gas Adapter Set of five nozzles to extend the air inlet pressure from 1 bar to 0.1 - 7.0 bar		1.44235.0001
Sterile Sleeves 10 pieces; for covering non-autoclave-able housing parts		1.44199.0010
Tripod For use at heights up to three meters		1.44209.0001
Table-top Tripod For horizontal operation		1.44210.0001
Table-top Stand for RCS High Flow For instrument storage and safe vertical use		1.44218.0001
RCS Validation Handbook **German version** **English version** Comprehensive compendium of validation data for RCS Microbial Air Samplers (RCS High Flow, RCS Isolator, RCS Plus) and Agar Strips; contains RCS Qualification Handbook for RCS High Flow		 1.44175.0001 1.44185.0001

RCS High Flow Accessories		Ord. No.
RCS Qualification Handbook **German version** **English version** Plan for instrument qualification of the RCS High Flow in controlled areas, contains IQ, OQ & PQ		 1.44177.0001 1.44191.0001
HYCON-ID Set Contains HYCON-ID Bluetooth Barcode Reader, bluetooth module and HYCON-ID Software; complete solution for wireless identification and documentation of microbial air sampling data		1.44224.0001
HYCON-ID USB Barcode Reader Barcode scanner with USB connection		1.44237.0001
HYCON-ID Barcode Printer Set Contains printer, software and labels to create user-specific barcodes		1.44234.0001
HYCON-ID Bluetooth Barcode Reader Contains bluetooth scanner and battery; for the extension of the HYCON-ID system to work with additional RCS High Flow instruments		1.44230.0001
HYCON-ID Battery Charger Charger for bluetooth barcode scanners		1.44231.0001
CalibSo Calibration Software for automated, computer-aided calibration and data storage		1.44206.0001
Anemometer Portable device for measuring the air flow rate during calibration of RCS Microbial Air Samplers		1.44205.0001
Adhesive Tapes 60 pieces; adhesive ring foils to seal the air inleat holes of the rotor during calibration		1.44208.0001
9.6 V Ni-Cd Replacement Battery Spare part		1.44203.0001
Rotor Spare part, autoclave-able Each combination of sampler and rotor must be calibrated separately		1.44196.0001
Protection Cap Spare part (stainless steel), autoclave-able For protection of the rotor during air sampling		1.44225.0001
Air Outlet Ring Spare part, autoclave-able		1.44198.0001
Carrying Case Spare part, aluminum carrying case with sections for the RCS High Flow Microbial Air Sampler, two rotors, power supply, serial cable, USB adapter, documentation and Agar Strips		1.44151.0001

RCS Isolator

The RCS Isolator is designed for confined spaces like isolators and laminar flow areas. The sampling head is seperated from the operating unit. The operating unit contains a keypad, display and the battery. It is connected to the sampling head with a cable. The air ducting is led to a common outlet to which a tube can be connected.

RCS Isolator in a glance

- Flexible two-component system, and sterilizable by gas & UV
- Employs the renowned RCS Technology
- Sample volumes up to 1,999 liters with a flow rate of 100 L/min
- User-friendly keypad and integrated battery with charge indicator display
- Best used with gamma-irradiated Agar Strips TCI-γ that neutralize residual disinfectants (even up to 500 ppm H_2O_2)

RCS Isolator	Ord. No.
RCS Isolator Microbial Air Sampler Including sampling unit, operating unit, connection cable with a secured plug, infrared remote control, rotor, protection cap, carrying case and user manual	1.44236.0001

RCS Isolator Accessories		Ord. No.
Universal Battery Charger For charging the integrated 12 V NiMH batteries		1.44216.0001
RCS Compressed Gas Adapter Autoclave-able adapter for microbial monitoring of compressed gasses; designed for a pressure of 1 bar		1.44233.0001
Nozzle Set for RCS Compressed Gas Adapter Set of five nozzles to extend the air inlet pressure from 1 bar to 0.1-7.0 bar		1.44235.0001

RCS Isolator Accessories		Ord. No.
Support Stand for Sampling Unit Stainless steel tripod for vertical mounting of sampling unit		1.44247.0001
Tripod For use at heights up to three meters; an adapter for connection with the tripod is required		1.44169.0001
Tripod Adapter For mounting to tripods or other installations		1.44248.0001
Table-top Tripod For horizontal operation		1.44210.0001
Air Outlet Tubing PVC outlet air tube to redirect the exhausted air to non-critical areas		1.44239.0001
Tri-Clamp Cable Transfer For use in isolators; connects the operating unit with the sampling unit through the isolator wall		1.44246.0001
RCS Validation Handbook **German version** **English version** Comprehensive compendium of validation data for RCS Microbial Air Samplers (RCS High Flow, RCS Isolator, RCS Plus) and Agar Strips		 1.44175.0001 1.44185.0001
CalibSo Calibration Software for automated, computer-aided calibration and data storage		1.44206.0001
Anemometer Portable device for measuring the air flow rate during calibration of RCS Microbial Air Samplers		1.44205.0001
Adhesive Tapes 60 pieces, adhesive ring foils to seal the air inlet holes of the rotor during calibration		1.44208.0001
Sampling Unit Replacement unit at an existing installation		1.44238.0001
Rotor Spare part, autoclave-able Each combination of sampler and rotor must be calibrated separately		1.44196.0001
Protection Cap Spare part (stainless steel), autoclave-able For protection of the rotor during air sampling		1.44225.0001
Infrared Remote Control		1.44197.0001

RCS Plus Ex

The RCS Plus Ex Microbial Air Sampler allows secure air sampling in explosion hazard areas. It is designed as an intrinsically safe instrument according to the protection class <ib>, corresponding EN 60079.

RCS Plus Ex in a glance

- Multiple sample volumes up to 1,999 liters with an flow rate of 50 L/min
- Seven preset sampling volumes, 3 user-defined volumes
- Self-explanatory keypad
- Autoclave-able sampling head
- Automated shut-down function
- Used with standardized and ready-to-use agar media
- Portable, battery-driven and low weight

RCS Plus Ex	Ord. No.
RCS Plus Ex Including two rechargeable 7.2 V Ni-Cd batteries, infrared remote control, battery compartement key, rotor, protection cap, carrying case and user manual	1.44204.0001

RCS Plus & RCS Plus Ex Accessories		Ord. No.
Universal Rapid Battery Charger **230 / 240 V (EU)** **120 V (US)** For charging of 9.6 V and 7.2 V Ni-Cd batteries		 1.44241.0001 1.44251.0001
Battery Discharger For discharging of the residual capacity of 9.6 V and 7.2 V batteries; prevents battery memory effects		1.44221.0001
Sterile Sleeves 10 pieces; for covering non-autoclave-able housing parts		1.44199.0010

RCS Plus & RCS Plus Ex Accessories		Ord. No.
Tripod For use at heights up to three meters		1.44209.0001
Table-top Tripod For horizontal operation		1.44210.0001
RCS Validation Handbook **German version** **English version** Comprehensive compendium of validation data for RCS Microbial Air Samplers (RCS High Flow, RCS Isolator, RCS Plus) and Agar Strips		 1.44175.0001 1.44185.0001
Anemometer Portable device for measuring the air flow rate during calibration of RCS Microbial Air Samplers		1.44205.0001
Adhesive Tapes 60 pieces, adhesive ring foils to seal the air inlet holes of the rotor during calibration		1.44208.0001
7.2 V Ni-Cd Replacement Battery Spare part		1.44252.0001
Battery Compartment Key		1.44227.0001
Rotor **For RCS Plus for serial numbers up to 4999** **For all RCS Plus Ex and** **RCS Plus for serial numbers as of 5000** Spare part, autoclave-able Each combination of sampler and rotor must be calibrated separately		 1.44222.0001 1.44223.0001
Protection Cap Spare part (stainless steel), autoclave-able For protection of the rotor during air sampling		1.44225.0001
Infrared Remote Control **For RCS Plus for serial numbers up to 4999** **For all RCS Plus Ex and** **RCS Plus for serial numbers as of 5000**		 1.44211.0001 1.44212.0001

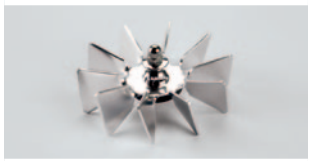
RCS Standard

The RCS Standard is the classic microbial air sampler in the RCS portfolio. In 1979, the RCS Standard was introduced as the first handheld air sampler worldwide. It is a light-weight and compact instrument for use in unclassified areas.

RCS Standard in a glance

- Seperation volume of 40 L/min at a particle size of 4 µm diameter
- Five preset sampling volumes of 20, 40, 80, 160 and 320 L
- Self-explanatory keypad with LED-mediated signaling
- Autoclave-able head and fan
- Automated shut-down function
- Used with standardized and ready-to-use agar media

RCS Standard	Ord. No.
RCS Standard Microbial Air Sampler Including four D-batteries, plastic protection cap, carying case and user manual	1.44164.0001

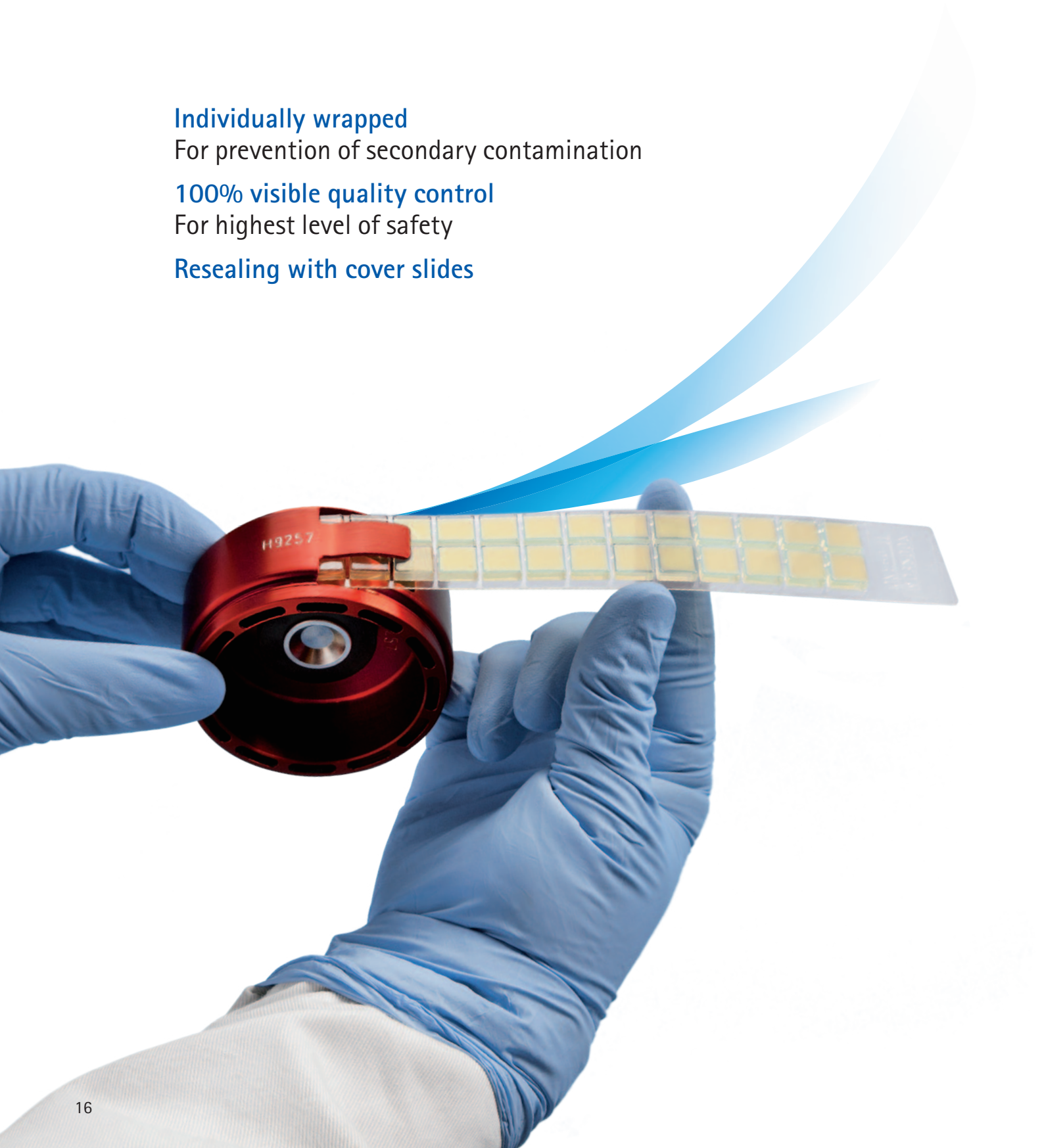
RCS Standard Accessories		Ord. No.
Power Supply 110-240 V, for continuous operation		1.44171.0001
Sterile Sleeves 10 pieces; for covering non-autoclave-able housing parts		1.44173.0010
Floor Plate For use in an upright position		1.44220.0001
Tripod For use at heights up to three meters		1.44169.0001
Calibration Set For verifying and correcting the angle of the Impeller Blade, recommended use at least once a week		1.44174.0001
Replacement Impeller Drum Spare part		1.44232.0001
Replacement Impeller Blade Spare part		1.44229.0001
Infrared Remote Control For RCS Standard for serial numbers as of 5000		1.44212.0001

Agar Media
Agar Strips for RCS Microbial Air Samplers

Individually wrapped
For prevention of secondary contamination

100% visible quality control
For highest level of safety

Resealing with cover slides



Proven reliability since 1979

A wide range of Agar Strips is available specifically for RCS Microbial Air Samplers. A choice can be made from a range of total count media and selective media for yeasts and molds, coliform organisms and staphylococci. For use in most critical areas there are gamma-irradiated products in sterile double pack. The use of standardized media, manufactured in controlled cleanroom areas, allows for complete validation of the system according to ISO 14698.

HYCON® Agar Strips in a glance

- Validated storage temperatures from 2 °C - 25 °C; allows for room temperature storage and reduced preparation time (except for S and C)
- Extended shelf-life up to six months
- Additives for neutralization of more than 5,000 ppm of hydrogen peroxide (TCI-γ)

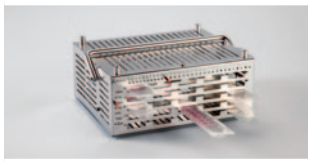
Additionally, for gamma-irradiated products:

- Sterile for maximum of safety
- Specifically designed for applications within isolator and cleanroom environment
- Double packaging allows for easy transfer into critical environment

HYCON Agar Strips – Total Count	Ord. No.
TC **50 strips per box** Tryptic Soy Agar for determination o f the total count Store at 2-25 °C	**1.44253.0050**
TSM **50 strips per box** Modified Tryptic Soy Agar with neutralizers against disinfectants and growth supplements; for identification of the total count of fastidious and sublethally damaged microorganisms Store at 2-25 °C	**1.44240.0050**
TC-γ **40 strips per box** Gamma-irradiated Tryptic Soy Agar, double-wrapped; for determination of total count in aseptic environments Store at 2-25 °C	**1.44226.0040**
TCI-γ **40 strips per box** Gamma-irradiated Tryptic Soy Agar with neutralizers, double-wrapped; for determination of total count in aseptic environments and in peroxide-containing air Store at 2-25 °C	**1.44228.0040**
PEN-γ **40 strips per box** Gamma-irradiated Tryptic Soy Agar with Penase; for determination of total count in penicillin-containing air in aseptic environments Store at 2-25 °C	**1.44109.0040**
LAC-γ **40 strips per box** Gamma-irradiated Tryptic Soy Agar with broadspectrum cephalosporinase; for determination of total count in aseptic environments containing antibiotics Store at 2-25 °C	**1.44108.0040**

Agar Strips for RCS Microbial Air Samplers

HYCON Agar Strips – Selective Agar Media	Ord. No.
YM **50 strips per box** Rose Bengal Agar with streptomycin; for determination of yeasts and molds Store at 2-25 °C	1.44242.0050
SDX **50 strips per box** Sabouraud Dextrose Agar with modified Pharmacopoeia formulation; for determination of yeasts and molds Store at 2-25 °C	1.44243.0050
SDX-γ **40 strips per box** Sabouraud Dextrose Agar with modified Pharmacopeia formulation; for determination of yeasts and molds in aseptic environments Store at 2-25 °C	1.44244.0040
DG-18 **25 strips per box** Dichloran Glycerine Agar; for determination of yeasts and molds Store at 2-25 °C	1.44245.0025
S **25 strips per box** Mannitol Salt Agar; for determination of staphylococci Store at 2-15 °C	1.44102.0025
C **25 strips per box** MacConkey Agar; for determination of coliform bacteria Store at 2-15 °C	1.44099.0025

HYCON Agar Strips Accessories		Ord. No.
HYCON Blank Strip Kit **50 strips per box** Empty strips for manual production of culture media for special applications		1.44107.0050
HYCON Cover Slides **100 slides per box** Cover slides for Agar Strips to prevent desiccation during incubation		1.44111.0100
Incubation Rack for Agar Strips Stainless steel; with indicator for incubation time		1.44249.0001
Safety Tweezer Holder Anodized aluminum		1.44217.0001

Contact Slides for Surface Sampling

Individually wrapped
For prevention of secondary contamination

Flexible media carrier
Optimal for curved surfaces

100% visible quality control
For highest level of safety

Contact Slides for Surface Sampling

The flexible way of monitoring surfaces

HYCON® Contact Slides are an easy and flexible way to determine bacteria, yeasts and molds on surfaces. They are designed specifically for use in aseptic cleanrooms and isolation areas.

HYCON® Contact Slides in a glance

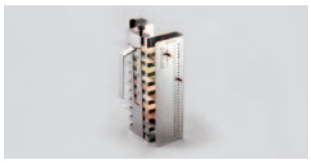
- Validated storage temperatures from 2 °C - 25 °C; allows for room temperature storage and reduced preparation time (except for DE-γ and B)
- Shelf-life of up to six months
- Resealing with included cover slides for safe transport after use
- Standardized contact area of 25 cm^2 meets international guidelines

Additionaly, for gamma-irradiated products:

- Sterile for maximum of safety
- Specifically designed for applications within isolator and cleanroom environments
- Double packaging allows for easy transfer into critical environment

HYCON Contact Slides – Total Count	Ord. No.
TC **20 slides per box** **100 slides per box** Tryptic Soy Agar; for determination of the total count; with neutralizers (Lecithin, L-Histidine, Sorbitol Monooleate Complex, Tween 80) and growth supplements Store at 2-25 °C	 **1.44023.0020** **1.44023.0100**
TC-γ **20 slides per box** **100 slides per box** Gamma-irradiated Tryptic Soy Agar, double-wrapped; for determination of total count in aseptic environments; with neutralizers (Lecithin, Sorbitol Monooleate Complex, Tween 80) and growth supplements Store at 2-25 °C	 **1.44022.0020** **1.44022.0100**
DE-γ **20 slides per box** Gamma-irradiated, modified Dey Engley Agar (D/E Agar), double-wrapped; for determination of total count in aseptic environments; with neutralizers (Lecithin, Sorbitol Monooleate Complex, Sodium Thioglycolate, Sodium Bisulfite) and growth supplements Store at 2-15 °C	**1.44021.0020**
PEN-γ **100 slides per box** Gamma-irradiated Tryptic Soy Agar with Penase, double-wrapped; for determination of total count in penicillin-containing air; with neutralizers (Lecithin, L-Histidine, Sorbitol Monooleate Complex, Tween 80) and growth supplements Store at 2-25 °C	**1.44014.0100**
LAC-γ **100 slides per box** Gamma-irradiated Tryptic Soy Agar with broadspectrum cephalosporinase, double-wrapped; for determination of total count in environments containing antibiotics; with neutralizers (Lecithin, L-Histidine, Sorbitol Monooleate Complex, Tween 80) and growth supplements Store at 15-25 °C	**1.44015.0100**

HYCON Contact Slides – Selective Agar Media	Ord. No.
B **20 slides per box** Sheep Blood Agar; for determination of total count of fastidious and pathogenic microorganisms Store at 2-15 °C	1.44020.0020
YM **20 slides per box** Rose Bengal Agar with streptomycin and chloramphenicol; for determination of yeasts and molds; with growth supplements Store at 2-25 °C	1.44018.0020
SDX **20 slides per box** Sabouraud Dextrose Agar with modified Pharmacopoeia formulation; for determination of yeasts and molds; with neutralizers (Tween 80, L-α-Phosphatidylcholine) and growth supplements Store at 2-25 °C	1.44017.0020
SDX-γ **20 slides per box** Gamma-irradiated Sabouraud Dextrose Agar with modified Pharmacopoeia formulation, double-wrapped; for determination of yeasts and molds in aseptic environments; with neutralizers (Tween 80, L -α-Phosphatidylcholine) and growth supplements Store at 2-25 °C	1.44016.0020
C **20 slides per box** MacConkey Agar; for determination of coliform bacteria; with growth supplements Store at 2-25 °C	1.44019.0020

HYCON Contact Slides Accessories		Ord. No.
HYCON Blank Strip Kit **20 slides per box** Empty slides for manual production of culture media for special applications		1.44024.0020
Incubation Rack for Contact Slides Stainless steel; with indicator for incubation time		1.44250.0001
Saftey Tweezer Holder Anodized aluminum		1.44217.0001

APC Airbone Particle Counters
APC SmartTouch

Significant cost savings
Dual flow rates in one instrument

Fast and convenient operation
Intuitive software on a touchscreen

Elimination of human error
Visual representation
of sample locations

A smart system with an easy touch

The APC SmartTouch is the first instrument specifically designed for incorporating two flow rates. The same instrument can be used for both certification as well as routine monitoring of cleanroom and controlled environments. This simultaneously eliminates the need for investment in multiple instruments and the associated routine costs from calibration events.

Revolutionary features allow the user to import a graphic file as jpeg for a visual representation of the sampling locations including the designated sampling points. It dramatically eliminates the potential for sampling errors while confirming that the proper samples have been taken. APC SmartTouch instruments combine highest performance standards with an intuitive use. The interactive large color touchscreen user interface with easy-to-understand icons allows fast and convenient operation. All required actions are started with a simple touch from the main screen, without complicated multi-level menu structures.

Applications for APC SmartTouch

- Cleanroom monitoring
- Cleanroom certification
- Research
- Exposure assessment
- Indoor air quality
- Filter testing
- Clearance testing
- Quality assurance
- Contamination migration studies

Two long-lasting Lithium-ion batteries allow continuous, flexible and uninterrupted operation, eliminating the need for down-time while recharging batteries. The batteries can easily be changed and recharged during operation without disruption or data loss.

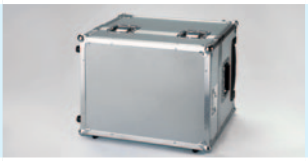
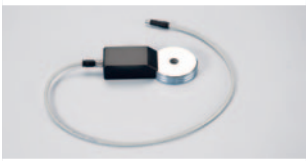
Including AC power cord and adapter, stainless steel isokinetic sampling probe, Hytrel tubing, table-top tripod, zero count filter, two Lithiumion batteries, two rolls of printer paper, APC SmartTouch Download Utility Software, quick start guide and user manual.

APC SmartTouch in a glance

- Channel Sizes user-configurable in 0.1 increments from 0.3-10.0 µm
- 21 CFR part 11 compliant storage of 10,000 complete data sets
- Reports according to ISO 14644-1, EC GMP annex 1 and FS209E for cleanroom certification
- 8.4" VGA display, infrared touchscreen
- Built-in thermal printer
- Weight 7.2 kg (8.5 kg with batteries) for plastic enclosure

APC SmartTouch	Ord. No.
APC SmartTouch, 1 CFM, Steel Flow rate 1 cubic foot per minute Stainless steel enclosure	1.44181.0001
APC SmartTouch, 50 LPM, Steel Flow rate 50 L/min Stainless steel enclosure	1.44182.0001
APC SmartTouch, 100 LPM, Steel Flow rate 100 L/min Stainless steel enclosure	1.44183.0001
APC SmartTouch, 1 CFM & 100 LPM, Steel Flow rate 1 cubic foot per minute & 100 L/min Stainless steel enclosure	1.44093.0001
APC SmartTouch, 50 LPM, Plastic Flow rate 50 L/min Plastic enclosure	1.44092.0001
APC SmartTouch, 100 LPM, Plastic Flow rate 100 L/min Plastic enclosure	1.44091.0001
APC SmartTouch, 1 CFM & 100 LPM, Plastic Flow rate 1 cubic foot per minute & 100 L/min Plastic enclosure	1.44089.0001

APC SmartTouch

APC SmartTouch Accessories		Ord. No.
Lithium-ion Battery 1 piece		1.44144.0001
Carrying Case **For plastic instruments** **For stainless steel instruments** With wheels and handle		 1.44148.0001 1.44259.0001
Thermal Printer Paper 5 rolls		1.44147.0001
Temperature / Relative Humidity Probe Only in conjunction with recalibration		1.44088.0001
Air Velocity Probe Only in conjunction with recalibration		1.44087.0001
Isokinetic Probe **1 CFM** **50 L/min** **100 L/min**		 1.44084.0001 1.44121.0001 1.44119.0001
Filter Scanning Probe, 1 CFM Including tubing		1.44083.0001
Sampling Tubing Per meter		1.44104.0001
Purge Filter		1.44079.0001
APC Compressed Gas Adapter Select the right nozzle set on the next page		1.44179.0001

APC SmartTouch Accessories		Ord. No.
Nozzle Set Compressed Gas Adapter 1 CFM 50 L/min 100 L/min		 1.44078.0001 1.44168.0001 1.44166.0001
Power Supply Including country-specific power cord		1.44145.0001
USB Connection Cable		1.44100.0001
Table-top Tripod For Isokinetic Probe, including adapter		1.44105.0001
APC SmartTouch Download Utility Software		1.44077.0001
APC SmartTouch Qualification Handbook For performing complete IQ, OQ and PQ of APC SmartTouch Airborne Particle Counters, available in English		1.44076.0001
External Charger Including country-specific power cord		1.44146.0001
Network Cable 1 meter		1.44075.0001

APC M3

The APC M3 Airborne Particle Counter has been discontinued and replaced by the new APC SmartTouch. Please refer to the previous chapter for details. Accessories for the APC M3 are still available, and we will continue to provide calibration and repair service through authorized service centers.

APC M3 Accessories		Ord. No.
Lithium-ion Battery, 14.4 V		1.44101.0001
External Battery Charger Set		1.44116.0001
Carrying Case With wheels and handle		1.44005.0001
Thermal Printer Paper 5 rolls		1.44009.0001
Temperature / Relative Humidity Probe Only in conjunction with recalibration		1.44122.0001
Air Velocity Probe Only in conjunction with recalibration		1.44123.0001
Differential Pressure Probe Only in conjunction with recalibration		1.44124.0001
APC Compressed Gas Adapter Select the right nozzle set below		1.44179.0001
Nozzle Set Compressed Gas Adapter 100 L/min 75 L/min 50 L/min		 1.44166.0001 1.44167.0001 1.44168.0001
Isokinetic Probe 100 L/min 75 L/min 50 L/min		 1.44119.0001 1.44120.0001 1.44121.0001
Sampling Tubing Per meter		1.44104.0001
Purge Filter Assembly		1.44125.0001

APC M3 Accessories		Ord. No.
Serial Interface Cable RS232, 3 m		1.44001.0001
USB Cable		1.44098.0001
Table-top Tripod For Isokinetic Probe, including adapter		1.44105.0001
APC M3 Qualification Handbook For performing complete IQ, OQ and PQ of APC M3 Airborne Particle Counters, available in German and English		1.44115.0001

APC Portable

The APC Portable Airborne Particle Counter has been discontinued and replaced by the new APC SmartTouch. Please refer to the corresponding chapter for details. Accessories for the APC Portable are still available, and we will continue to provide calibration and repair service through authorized service centers.

APC M3 Accessories		Ord. No.
Carrying Case With wheels and handle		1.44005.0001
Thermal Printer Paper 5 rolls		1.44010.0001
APC Compressed Gas Adapter		1.44179.0001
Nozzle Set Compressed Gas Adapter, 1 CFM		1.44170.0001
Isokinetic Probe, 1 CFM		1.44258.0001
Filter Scanning Probe, 1 CFM		1.44097.0001
Sampling Tubing Per meter		1.44007.0001
Purge Filter		1.44118.0001
Serial Cable RS232, 3 m; for serial number as of xxxx-0999		1.44001.0001
Table-top Tripod For Isokinetic Probe, including adapter		1.44105.0001
APC Portable Qualification Handbook For performing complete IQ, OQ and PQ of APC Portable Airborne Particle Counters, available in English		1.44117.0001

APC ErgoTouch Pro & APC ErgoTouch

Intuitive icons
For easy operation

Compressed gas adaptor
Available for high pressure

Low investment
For validation of ISO 7,
8 & GMP Gr. C, D

A new dimension in handheld particle counting

The APC ErgoTouch & ErgoTouch Pro offer features which are available usually only on portable particle counters. Both of the handheld counters have a large display to show the counting results. The ErgoTouch has a large monochrome display indicating the count results on three channels at the same time. The ErgoTouch Pro has a color display to show the counts results over six particle channels, and functions are easy to operate by logical icons.

Validation of a new cleanroom is easy to handle by using the APC ErgoTouch Pro through standard ISO 14644 & GMP reports as long as the clean-room class is ISO 7, 8 or GMP Gr. C, D. The report can be printed through an external portable thermal printer like the bigger portable counters. This way the APC ErgoTouch Pro offers a very economic solution for cleanroom validation.

APC ErgoTouch Pro

Handheld particle counter with a flow rate of 2.83 L/min and six channels, calibrated to 0.3 / 0.5 / 1.0 / 3.0 / 5.0 / 10.0 µm, user-configurable in 0.1 µm increments (0.3 to 10.0 µm)

APC ErgoTouch Pro	Ord. No.
APC ErgoTouch Pro Including power supply, battery, isokinetic probe, stylus, purge filter, USB cable, ErgoTrak Lite Data Download Utility Software (CD), user manual (CD), quick start guide	1.44131.0001

APC ErgoTouch Pro Accessories		Ord. No.
Lithium-ion Battery		1.44132.0001
Power Supply		1.44133.0001
External Battery Charger		1.44134.0001
Carrying Case Aluminum		1.44156.0001
External Printer		1.44163.0001
Thermal Printer Paper 10 rolls		1.44165.0001
Temperature / Relative Humidity Probe Only in conjunction with recalibration		1.44135.0001
APC Compressed Gas Adapter		1.44179.0001
Nozzle Set Compressed Gas Adapter, 0.1 CFM		1.44180.0001
Isokinetic Probe		1.44159.0001

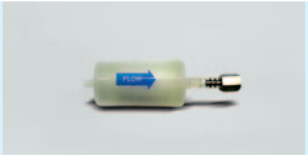
APC ErgoTouch Pro Accessories		Ord. No.
Remote Isokinetic Probe		1.44160.0001
Filter Scanning Probe, 0.1 CFM		1.44095.0001
Sampling Tubing Per meter		1.44142.0001
Barbed Tubing Inlet For remote sampling		1.44143.0001
Purge Filter		1.44157.0001
USB Cable		1.44100.0001
APC ErgoTouch Pro Qualification Handbook For performing complete IQ, OQ and PQ of APC ErgoTouch Pro Airborne Particle Counter, available in English		1.44127.0001

APC ErgoTouch

Handheld particle counter with a flow rate of 2.83 L/min and three channels, 0.3 µm and 0.5 µm fixed and middle channel adjustable (0.5 / 1.0 / 2.0 / 2.5 µm).

APC ErgoTouch	Ord. No.
APC ErgoTouch Including power supply, battery, isokinetic probe, purge filter, USB cable, ErgoTrak Lite Data Download Utility Software (CD), user manual (CD), quick start guide	1.44126.0001

APC ErgoTouch

APC ErgoTouch Accessories		Ord. No.
Lithium-ion Battery		1.44128.0001
Power Supply		1.44129.0001
Carrying Case Aluminum		1.44130.0001
APC Compressed Gas Adapter		1.44179.0001
Nozzle Set Compressed Gas Adapter, 0.1 CFM		1.44180.0001
Isokinetic Probe		1.44159.0001
Remote Isokinetic Probe		1.44160.0001
Filter Scanning Probe, 0.1 CFM		1.44095.0001
Sampling Tubing Per meter		1.44142.0001
Barbed Tubing Inlet For remote sampling		1.44143.0001
Purge Filter		1.44157.0001
USB Cable		1.44098.0001
Table-top Stand		1.44219.0001

APC Handheld

The APC Handheld Airborne Particle Counter series has been discontinued and replaced by the APC ErgoTouch and APC ErgoTouch Pro. Please refer to the corresponding chapters for details. Accessories for the APC Handheld are still available, and we will continue to provide calibration and repair service through authorized service centers.

APC Handheld Accessories		Ord. No.
Universal Battery Charger		1.44008.0001
Carrying Case		1.44002.0001
Thermal Printer 120 V 230–240 V		 1.44013.0001 1.44012.0001
Thermal Printer Paper 5 rolls		1.44010.0001
APC Compressed Gas Adapter		1.44179.0001
Nozzle Set Compressed Gas Adapter, 0.1 CFM		1.44172.0001
Isokinetic Probe		1.44000.0001
Tubing & Adapter Pieces for Remote Sampling		1.44113.0001
Filter Scanning Probe 0.1 CFM		1.44095.0001
Purge Filter		1.44112.0001
Serial Interface Cable RS232, 3 m; for serial numbers as of xxxx-0999		1.44001.0001
Table-top Stand		1.44011.0001
Wall Bracket		1.44004.0001
APC Handheld Qualification Handbook For performing complete IQ, OQ and PQ of APC Handheld Airborne article Counter, available in English		1.44114.0001

MMB Molecular Microbiology
Hygiene Screening System (HSS)

Easy assay procedure
Starting from a single bacterial colony

Rapid method
Results in less than 1.5 hours

Robust application
Highly sensitive and specific

Rapid and robust bacterial identification using real-time PCR

The Hygiene Screening System (HSS) allows rapid and robust identification of the most common bacteria from hygiene monitoring samples, *Corynebacterium*, *Staphylococcus*, *Micrococcus*, *Kocuria*, and *Kytococcus*, with a simple procedure starting from a single bacterial colony.

The system minimizes the use of other expensive and time consuming identification procedures and is the optimal extension to these systems.

The method is based on a fast real-time PCR technology using the Lightcycler® 2.0 Carousel-Based System. Highly specific HybProbes allow the simultaneous detection of the mentioned genera within a single PCR reaction in less than 90 minutes.

A subsequent melting curve analysis can be used to identify the most important species and species groups within these genera.

Bacterial colonies, even micro-colonies, growing on solid agar media used for environmental monitoring like air sampling, surface testing or sedimentation are suspended in the Suspension Buffer provided. A part of this lysate is added to the ready-to-use master mix containing primers and hybridization probes. After addition of the recommended Enzyme Mix containing *Taq* DNA Polymerase and Uracil-N-Glycosylase (UNG) for carry-over-prevention, the complete reaction is amplified and analyzed in the Lightcycler System. The simple set-up of only a few steps minimizes errors, guaranteeing highly accurate and precise results.

Hygiene Screening System	Ord. No.
Suspension Buffer 800 reactions	**1.44070.0800**
Hygiene Screening System Hybridization Probes 96 reactions	**1.44071.0096**
Enzyme Mix *Taq* DNA Polymerase/UNG 96 reactions	**1.44068.0096**

MMB Mycoplasma PCR Kit

Robustness
Broad detection of Mycoplasma

Extreme sensitivity
Fewer than 50 cfu/mL

Speed
Detection in less than 3.5 hours

Easy, fast and reliable PCR detection of Mycoplasma from cell culture

The MMB Mycoplasma PCR Kit offers a new approach for easy, fast and reliable PCR detection followed by convenient gel electrophoresis. The MMB Mycoplasma PCR Kit consists of a PCR primer mixture which guarantees the detection of all nine Mycoplasma species listed in the European Pharmacopeia with a sensitivity of at least 50 colony forming units (cfu)/mL cell culture supernatant:

Acholeplasma laidlawii, *Mycoplasma arginini*, *Mycoplasma fermentans*, *Mycoplasma gallisepticum*, *Mycoplasma hyorhinis*, *Mycoplasma orale*, *Mycoplasma pneumoniae*, *Mycoplasma synoviae*, *Spiroplasma citri*

Phylogenetically closely related microorganisms, e.g. *Streptococcus sp.*, *Clostridium sp.* and *Lactobacillus sp.* are not detected.

The MMB Mycoplasma PCR Kit is specially optimized for highly sensitive and specific detection of Mycoplasma 16S rDNA. Beside the amplification of a specific 260 bp Mycoplasma fragment, an internal inhibition control with a size of 160 bp is included.

Extreme sensitivity below 50 cfu/mL cell culture is obtained with the ready-to-use PCR Master Mix using a Hot Start *Taq* DNA Polymerase.

PCR detection can be performed on any thermal cycler. The detection takes less than 3.5 hours with less than 10 min sample preparation, PCR and gel electrophoresis with ready-to-load PCR buffer.

MMB Mycoplasma PCR Kit	Ord. No.
MMB Mycoplasma PCR Kit 100 reactions	**1.44073.0100**

MMB Food Pathogen System

Fast assay procedure
Optimized pre-enrichment, isolation and detection

Robust application
Optimal results from demanding food matrices

Sensitive detection
Less than 5 DNA copies

Fast and sensitive pathogen detection on a broad range of real-time PCR cyclers

The system consists of matched kits, combining ones for the isolation of nucleic acids – the MMB Food Pathogen Prep Kits – and kits for real-time PCR-based detection of food samples – the MMB Food Pathogen Detection Kits. The fail-safe analysis is completed within a few hours of pre-enrichment, ensuring a short time-to-result for fast product release.

All tests follow the same simple procedure of pre-enrichment, sample preparation and real-time PCR detection. For all these steps, we provide standardized and pre-mixed reagents including heipha's enrichment media and buffered peptone water produced according to GMP guidelines.

The MMB Salmonella System is certified by MicroVal and AOAC RI as an alternative method to the ISO standard.

The MMB Food Pathogen System allows fast and sensitive detection of all common food-borne bacteria including *Salmonella*, *Campylobacter*, *Listeria monocytogenes*, and *Shiga toxin producing E.coli (STEC)* and viruses like Norovirus on a broad range of real-time PCR cyclers.

	MMB V		MMB R		MMB LC	
	λ_D	λ_I	λ_D	λ_I	λ_D	λ_I
Wavelength detection system	FAM 522 nm		FAM 522 nm		FAM 522 nm	
Wavelength inhibition control		VIC 553 nm		ROX 602 nm		LC (F2) 640 nm
Real-time thermal cycler	• ABI 7000, 7300, 7500, 7700, 7900 SDS, StepOne • Eppendorf ep realplex², ep realplex⁴ • Agilent/ Stratagene Mx Series • Corbett/QIAGEN Rotor Gene		• BioRad iCycler • BioRad iQ5 • BioRad Chromo4 • Roche LightCycler 480		• Roche LightCycler 1.5 LightCycler 2.0	

Overview of the MMB Food V, R or LC Kits and their use on the appropriate real-time thermal cycler

MMB Food Pathogen Prep Kits

For isolation of bacterial DNA or viral DNA/RNA

The MMB Food Pathogen Prep Kits enable fast isolation and purification of high quality DNA from *Salmonella*, *Campylobacter*, *Listeria*, *E.coli* and DNA/RNA from DNA/RNA viruses. The kits use a silicabased spin column procedure for the efficient removal of potential inhibitors. The isolated DNA can be used directly for the qualitative real-time PCR detection without further treatment.

MMB Food Pathogen Prep Kits	Ord. No.
MMB Bacteria Prep Kit 2 x 50 reactions	1.44030.0100
MMB Salmonella Prep Kit 2 x 50 reactions	1.44029.0100
MMB Campylobacter Prep Kit 2 x 50 reactions	1.44028.0100
MMB Listeria Prep Kit 2 x 50 reactions	1.44027.0100
MMB E.coli Prep Kit 2 x 50 reactions	1.44026.0100
MMB DNA/RNA Virus Prep Kit 2 x 50 reactions	1.44025.0100

MMB Food Pathogen Detection Kits

For real-time PCR detection

Identical amplification protocols for all micro-organisms allow different tests to be performed in a single run. In addition, the kits are optimized for versatile use on a broad range of real-time cyclers including instruments of Applied Biosystems, Agilent, BioRad, Eppendorf, QIAGEN and Roche. Simultaneous amplification of the desired target DNA and of an internal control DNA excludes false negative results. The use of an Hot-Start enzyme for amplification further increases sensitivity.

MMB Food Pathogen Detection Kits	Ord. No.
MMB Salmonella (V) Kit 100 reactions	1.44065.0100
MMB Salmonella (R) Kit 100 reactions	1.44064.0100
MMB Salmonella (LC) Kit 100 reactions	1.44063.0100

MMB Food Pathogen Detection Kits	Ord. No.
MMB Campylobacter (V) Kit 100 reactions	1.44059.0100
MMB Campylobacter (R) Kit 100 reactions	1.44057.0100
MMB Campylobacter (LC) Kit 100 reactions	1.44056.0100
MMB Listeria monocytogenes (V) Kit 100 reactions	1.44055.0100
MMB Listeria monocytogenes (R) Kit 100 reactions	1.44054.0100
MMB Listeria monocytogenes (LC) Kit 100 reactions	1.44053.0100
MMB STEC (V) Kit 100 reactions	1.44052.0100
MMB STEC (R) Kit 100 reactions	1.44051.0100
MMB STEC (LC) Kit 100 reactions	1.44049.0100
MMB Norovirus (V) Kit 100 reactions	1.44033.0100
MMB Norovirus (R) Kit 100 reactions	1.44032.0100
MMB Norovirus (LC) Kit 100 reactions	1.44031.0100
MMB Staphylococcus aureus (V) Kit 100 reactions	1.44048.0100
MMB Listeria Screening (V) Kit 100 reactions	1.44039.0100
MMB Vibrio cholerae (V) Kit 100 reactions	1.44038.0100
MMB Legionella pneumophila (V) Kit 100 reactions	1.44037.0100
MMB Clostridium perfringens (V) Kit 100 reactions	1.44036.0100
MMB Legionella Screening (V) Kit 100 reactions	1.44034.0100
MMB Bacillus cereus (V) Kit 100 reactions	1.44035.0100

Pyrogen Testing
PyroDetect System

Broad Pyrogen Profile

Easy Assay Procedure

Robust Application

The human(e) Alternative in Pyrogen Testing

The PyroDetect System is a revolutionary test for the detection of pyrogens based on the Monocyte-Activation Test (MAT). The PyroDetect Sytem uses an innate immune defense reaction. Monocytes activated by pyrogens produce cytokines that are detected in an immunological assay (ELISA) involving specific antibodies and an enzymatic color change.

For the last decade, the rabbit test and the Limulus Amebocyte Lysate (LAL) test were used for the detection of pyrogens. Both methods are limited in the products which can be analysed and both have a high level of animal consumption. In the case of the LAL test, only endotoxins can be detected causing a safety risk. To overcome these limitations, the Monocyte-Activation Test (MAT) was introduced in the European Pharmacopoeia in 2010 as an alternative to the rabbit test (EP Chapter 2.6.30). Using whole human blood, the PyroDetect System mimics the innate immune response of a fever reaction caused by pyrogens. The MAT test simulates this response better than any animal test.

Comparison of Pyrogen Test Methods				
		Rabbit	LAL	PyroDetect
	Test principle	Fever reaction in mammal	Defect mechanism	Fever reaction in human
Contamination	Gram-negativ (LPS)	+	+	+
	Gram-positiv (LTA)	+	-	+
	Yeasts & Molds	+	-	+
	Virus	+/-[1]	-	+
Application	Pharmaceuticals	+	+	+
	Biologicals (e.g. gene therapy, recombination therapeutic proteins)	+	+/-[2]	+
	Medical devices	+[3]	+/-[3]	+
	Cell therapeutics	-	+/-	+

[1] Variable pyrogen results,
[2] Rabbit test often required,
[3] Indirect test with solution in pyrogen-free water

Comparison of the Rabbit Test, the LAL Test and the PyroDetect System.

The PyroDetect System (Ord. No. 1.44153.0001) consists of the PyroDetect Kit (Ord. No. 1.44154.0001) and the PyroDetect Cryoblood (Ord. No. 1.44155.0001). Except for the endotoxin standard it contains all biological and biochemical reagents required for the MAT. Both test components are also available as separate subsets. To perform the test an endotoxin standard, the PyroDetect Endotoxin Standard (Ord. No. 1.44161.0001), or an equivalent reference standard can be used.

PyroDetect System		Ord. No.
PyroDetect System Comprises PyroDetect Kit and PyroDetect Cryoblood		1.44153.0001
1. PyroDetect Kit Reagents for the cryo-blood incubation and the Interleukin-1β ELISA Store at 2-8 °C		1.44154.0001
2. PyroDetect Cryoblood Cryo-blood – deep frozen human whole blood preparation, 2 x 2 mL Store at -80 °C		1.44155.0001
PyroDetect Endotoxin Standard International Reference Standard Endotoxin (RSE) – lyophilized Store at -20 °C, reconstituted at -40 °C		1.44161.0001
PyroDetect Interleukin Standard Interleukin-1β Standard for control reactions in the Interleukin-1β ELISA (optional) Store at 2-8 °C		1.44158.0001

Service
Calibration, Repair, Qualification

We provide a wide range of services at the Technology Center Microbiology in Eppelheim, Germany, and through various subsidiaries and distribution partners. Please contact your local EMD Millipore partner.

Calibration	Ord. No.
Calibration RCS Microbial Air Sampler RCS High Flow (Touch), RCS Isolator, RCS Plus (Ex), RCS Standard	1.44214.0001
Calibration RCS Microbial Air Sampler including 'as received' data RCS High Flow (Touch), RCS Isolator, RCS Plus (Ex), RCS Standard	1.44213.0001
Calibration Biotest Anemometer	1.44215.0001
Calibration APC Portable Instruments APC SmartTouch (except for dual flow rate), APC M3, APC Portable	1.44184.0001
Calibration APC Dual Flow Rate APC SmartTouch 1 CFM & 100 LPM	1.44190.0001
Calibration APC Handheld Instruments APC ErgoTouch (Pro), APC, APC Plus, APC TEN	1.44186.0001
Calibration External Probe Temperature / Relative Humidity Probe, Air Velocity Probe, Differential Pressure Probe	1.44188.0001

Repair	Ord. No.
Hourly Rate for Service and Repair RCS	1.44162.0001
Hourly Rate for Service and Repair APC	1.44187.0001

Qualification	Ord. No.
Qualification Service Performance of instrument qualification is offered based on our Qualification Handbooks. Please inquire for details.	upon request

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940 105	1.44177.0001	RCS Qualification Handbook, German version	9
940 106	1.44178.0001	RCS High Flow Touch Qualification Handbook, German version	6
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